



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,492	08/23/2005	Helmut Christian Eder	22409-00007-US	7344

30678 7590 10/09/2007
CONNOLLY BOVE LODGE & HUTZ LLP
1875 EYE STREET, N.W.
SUITE 1100
WASHINGTON, DC 20036

EXAMINER

CHAN, RICHARD

ART UNIT	PAPER NUMBER
----------	--------------

2618

MAIL DATE	DELIVERY MODE
-----------	---------------

10/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,492

Applicant(s)

EDER ET AL.

Examiner

Richard Chan

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/20/07 has been entered.

Response to Arguments

2. Applicant's arguments, see page 8-12, filed 7/20/07 with respect to the rejection(s) of claim(s) 20, 22, 25, 30, 32, and 37 under 35 USC 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kennedy (US 5, 999,856).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 20 –38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kennedy (US 5,999,856).

Regarding claim 20, Kennedy discloses an evoked neural response measuring device comprising: a first implanted subsystem 215 configured to provide stimulation to at least one desired section of an auditory nerve 50, (Col.6 line 43-61) and further configured to successively sample with electronics unit 225 an evoked neural response of the auditory nerve to said stimulation thereby obtaining a plurality of discrete values collectively representing an unsaturated, high gain amplified version of the evoked neural response; and a second subsystem configured to reconstruct said plurality of discrete values into a continuous waveform. (Col.7 line 1-56)

Regarding claim 21, Kennedy discloses the device of claim 20, wherein said first subsystem comprises: an electrode array 310A-C configured to stimulate said at least one desired section of the auditory nerve and to detect the value of a response of the desired auditory nerve section to said stimulation at successive time intervals; (Col.7 line 32-38) and a high gain amplifier (Differential Amplifier) having a reference voltage input configured to be set to a value of said evoked response at a first time, and a signal input configured to be set to a value of said evoked response at a second time subsequent to said first time, and wherein said amplifier is configured to amplify the

Art Unit: 2618

difference in said evoked response between said first time and said second time. (Col.7 line 38-51)

Regarding claim 22, Kennedy discloses the device of claim 20, wherein said second subsystem comprises: an integrator 330 configured to reconstruct said plurality of discrete values into a continuous waveform. (Averaging) (Col.7 line 45-48)

Regarding claim 23, Kennedy discloses the device of claim 21, wherein said reference voltage input is configured to be set to a value of said evoked response at the commencement of each said time interval, and wherein said signal input is configured to be set to a value of said evoked response at end of each said interval. (Col.10 line 47-67)

Regarding claim 24, Kennedy discloses the device of claim 21, wherein said first subsystem further comprises: a sample-and-hold circuit step 800 having an input from said electrode array configured to set the reference voltage of said amplifier equal to a present value of the evoked response at the commencement of each said interval. (Col.10 line 47-67)

Regarding claim 25, Kennedy discloses the method of measurement of an evoked neural response in a cochlear implant comprising: stimulating a desired section of an auditory nerve to elicit an evoked neural response 50, (Col.6 line 43-61);

successively sampling the evoked neural response of the auditory nerve at a plurality of intervals to obtain a plurality of discrete values collectively representing an unsaturated, high gain amplified version of the evoked neural response; and reconstructing said plurality of discrete values into a continuous waveform. (Col.7 line 1-56)

Regarding claim 26, Kennedy discloses the method of claim 25, wherein sampling the evoked neural response at a plurality of intervals includes: successively altering a reference voltage of a high gain amplifier at the commencement of each sample interval such that each discrete value equals an amplified form of the voltage change in the evoked neural response over said interval. (Col.10 line 47-67)

Regarding claim 27, Kennedy discloses the method of claim 26, wherein each altering of said reference voltage comprises: setting said reference voltage equal to a present value of the evoked neural response at the commencement of each interval. (Col.10 line 47-67)

Regarding claim 28, Kennedy discloses the method of claim 25, wherein each said sampling comprises: obtaining from a sensor at a first time a first value representing the evoked neural response; (Col.7 line 30-37) setting a reference voltage of a high gain amplifier 300 equal to said first value of the evoked neural response; obtaining from said sensor at a second time subsequent said first time a second value representing the evoked neural response; setting a signal input of said high gain

Art Unit: 2618

amplifier equal to said second value of the evoked neural response; amplifying with said high gain amplifier the voltage difference between the said first and said second values of the evoked neural response. (Col.7 line 38-44)

Regarding claim 29, Kennedy discloses the method of claim 28, wherein setting the reference voltage of the high gain amplifier equal to said first value comprises: setting the reference voltage of the high gain amplifier equal to the present value of the evoked neural response at the commencement of each sample interval. (Col.10 line 47-67)

Regarding claim 30, Kennedy discloses the method of claim 25, wherein reconstructing said plurality of discrete values into a continuous waveform comprises: integrating said plurality of discrete values to obtain said continuous waveform. (Averaging) (Col.7 line 45-48)

Regarding claim 31, Kennedy discloses the method of claim 28, wherein obtaining said first and second values comprises: utilizing one or more electrodes of an electrode array of a cochlear implant to obtain said values. (Col.7 line 1-56)

Regarding claim 32, Kennedy discloses the device for measuring of an evoked neural response in a cochlear implant comprising: means for sampling the evoked

Art Unit: 2618

neural response 50, (Col.6 line 43-61) of an auditory nerve at a plurality of intervals to obtain a plurality of discrete values collectively representing an unsaturated, high gain amplified version of the evoked neural response; (Col.7 line 1-56) and means for reconstructing said plurality of discrete values into a continuous waveform.

(Averaging) (Col.7 line 45-48)

Regarding claim 33, Kennedy discloses the device of claim 32, wherein said means for sampling the evoked neural response at a plurality of intervals includes: means for successively altering a reference voltage of a high gain amplifier at the commencement of each sample interval such that each discrete value equals an amplified form of the voltage change in the evoked neural response over said interval.

(Col.10 line 47-67)

Regarding claim 34, Kennedy discloses the device of claim 33, wherein each means for altering said reference voltage comprises: means for setting said reference voltage equal to a present value of the evoked neural response. (Col.10 line 47-67)

Regarding claim 35, Kennedy discloses the device of claim 32, wherein each said means for sampling comprises: means for obtaining from a sensor at a first time a first value representing the evoked neural response 50, (Col.6 line 43-61); means for setting a reference voltage of a high gain amplifier equal to said first value of the evoked neural response; means for obtaining from said sensor at a second time subsequent

Art Unit: 2618

said first time a second value representing the evoked neural response; (Col.7 line 1-56) means for setting a signal input of said high gain amplifier equal to said second value of the evoked neural response; means for amplifying with said high gain amplifier the voltage difference between the said first and said second values of the evoked neural response. (Col.10 line 47-67)

Regarding claim 36, Kennedy discloses the device of claim 35, wherein said means for setting the reference voltage of the high gain amplifier equal to said first value comprises: means for setting the reference voltage of the high gain amplifier equal to the present value of the evoked neural response at the commencement of each sample interval. (Col.10 line 47-67)

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chan whose telephone number is (571) 272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571)272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Chan
Art Division 2618
9/18/07


NAY MAUNG
SUPERVISORY PATENT EXAMINER